UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA

Dr. Malka L. Goodman, Trustee of the Aviel Goodman Revocable Trust, Assignee of Dr. Aviel Goodman, Plaintiff, v. Economy Premier Assurance Company, and MetLife Auto & Home Insurance Agency, Inc. Defendants.	Civil File No.: 19-cv-1815 PAM/ECW AFFIDAVIT OF DOUGLAS A. SAND

STATE OF MINNESOTA)
) ss
COUNTY OF HENNEPIN)

I, Douglas A. Sand, of Sand Forensic Engineering, being duly sworn and under oath, states and alleges as follows:

1. I am a professional engineer.

2. This Affidavit is submitted in opposition to Plaintiff's Motion for Summary Judgment.

3. Attached hereto and marked as Exhibit 1 is a copy of my curriculum vitae.

4. Attached hereto and marked as Exhibit 2 is a copy of my February 26, 2020 report, which I incorporate herein.

5. That the cause of the freezing damage at the subject property was a lack of any heat in the premises due to the fact that the heat was not turned on.

6. That I have obtained and accumulated weather data and the relevant utility use records for the relevant times associated with the subject incident which was discovered on November 20, 2018.

7. That the temperatures during this time period were well below freezing, which would have caused the house boiler to consume well more than one therm per day had the heat been turned on.

8. That the weather records for November of 2018, marked as Exhibit 3, show that local outside temperatures dropped below freezing for nearly one week during the first half of November 2018, with outside temperatures dropping to 7° F.

9. That there are three natural gas appliances contained in the subject property that would have consumed natural gas during the relevant time period: the house boiler, which heated the home, an outside boiler that heated the sidewalk and detached garage, and the hot water heater.

10. That the natural gas records obtained from Xcel Energy for the subject premises measure the gas consumed by the appliances in therms. See Exhibit 4.

11. That the Xcel Energy documents show the therm usage for the period of time before the freezing occurred from November 1, 2018 through November 14, 2018 was less than 1 therm per day, which would be consistent with the therm usage for the pilot lights on the hot water heater and boilers.

12. That the therm usage records obtained from Xcel Energy confirm that there was no heat turned on in the premises until after the freeze up and resulting water damage was discovered on November 20, 2018.

13. That the increase in therm usage on November 15, 2018 through November 18, 2018 was due to the constant running of the hot water heater caused by a freeze in the third floor water pipe, causing the pipe to break open and the hot water to flow just as if the faucet was turned on. When that happened, the hot water heater would constantly call for heat and consume therms. I have calculated the therm use of that hot water heater per day if it was constantly running and those calculations result in therm usage of an amount consistent with that shown in Exhibit 4.

14. That the therm usage after November 20, 2018 was consistent with the boiler now operating because the heat was finally turned on.

15. That 6.0 units or 4,488 gallons of water was metered into the house from August 17, 2018 through November 16, 2018 as documented in the Saint Paul, MN Water meter readings attached as Exhibit 5. The house was not occupied during this period. A portion of the 4,488 gallons of metered water during this period was flood water through the broken pipe beginning on or about November 15, 2018 when the flooding and hot water heater natural gas consumption commenced.

16. That after the flooding was discovered on November 20, 2018, the house boiler heat was finally turned on as documented by the therm usage on and after that date.

17. That on November 20, 2018, the hot water heater was no longer running constantly as the water had been turned off to mitigate further damage from flooding out of the frozen pipes, so all of the therm usage would be attributable to the boiler.

18. That it is an absolute engineering certainty that the freezing damage and loss to the Goodman property was a result of the heat not being turned on.

19. That page 35 of 48 of the photos attached to my report marked as Exhibit 2 shows photos of the thermostat control. This thermostat includes an "off" switch.

20. That all of the controls and components of the house boiler system were working at the time of the freeze and if the switch on the thermostat had been turned to "on," the premises would have been heated.

21. That a radiator on the second floor froze and cracked and that a radiator on the third floor froze and cracked, which would be impossible if the heat was on.

22. That 19.0 units or 14,212 gallons of hot water flowed through the broken pipe from the time of the November 16, 2018 water meter reading and November 20, 2018 when the main water valve in the basement was closed as documented in the Saint Paul, MN Water meter readings.

FURTHER YOUR AFFIANT SAYETH NOT.

Douglas A. Sand, P.E.

Subscribed and sworn to before me
this 25 th day of November, 2020.

Notary Public

LYNNAE I. WASKOSKY
Notary Public-Minnesota
My Commission Expires Jan 31, 2025